SAFETY DATA SHEET

SECTION 1 – STATEMENT OF CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SUPPLIER:	Solutions – Sealers for Stone & Tile.		
ADDRESS:	2/27 Central Park Drive, Yandina QLD 4561, Australia.		
Trade Name:	**DENSIFY - K**		
TELEPHONE:	1300 4 STONE (78663)	**FAX:**	+ 61 7 5446 7381
AH EMERGENCY TELEPHONE:	13 1126 in Australia 0800 764 766 in New Zealand	**ABN:**	25 128 656 082
Substance:	Water based	**Product Use:**	Silicate hardener
Creation Date:	April 2018	**Revision Date:**	April 2023
Product Code:			

SECTION 2 – HAZARDS IDENTIFICATION

Classification of the substance or mixture	
Poisons Schedule	S5 (alkaline salts)
Dangerous Goods	Not classified as Dangerous Goods class 8
GHS Classification	Serious Eye Damage/Irritation Category 1 Skin Irritation Category 2
Label elements	
GHS label pictograms	
Signal word	**DANGER**
Hazard statement(s)	
H318	Causes serious eye damage.
H315	Causes skin irritation.
Precautionary statement(s): General	
P102	Keep out of reach of children.
P103	Read label before use.
Precautionary statement(s): Prevention	
P280	Wear eye protection/face protection and protective gloves.
P264	Wash hands thoroughly after handling.
Precautionary statement(s): Response	
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P321	Specific treatment (see First Aid Measures on Safety Data Sheet).

Precautionary statement(s): Storage	
	None allocated
Precautionary statement(s): Disposal	
	None allocated
Note	
IMPORTANT	This SDS and the Hazard Classifications contained therein, only apply to the product in its concentrated form, as supplied. When diluted to 1:10 or greater they no longer apply. However, good hygiene and housekeeping practices should be adhered to.

SECTION 3 – COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Proportion:
Potassium silicate	1312-76-1	30 – 60 % w/w
Ingredients determined to be non-hazardous	various	< 10 % w/w
Water	7732-18-5	To 100 % w/w

NOTE: Ingredients determined not to be hazardous are present in concentrations that do not exceed the relevant cut-off concentrations as found from NOHSC publication "List of Designated Hazardous Substances" or have been found NOT to meet the criteria of a hazardous substance as defined in the NOHSC publication "Approved Criteria for Classifying Hazardous Substances", or have been found NOT to meet the criteria of a dangerous substance as defined in the GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS) , 4th edition United Nations 2011. Listed ingredients may be below the cut-off concentrations for classification as hazardous, but are listed for information purposes and for additive effects.

SECTION 4 – FIRST AID MEASURES

Inhalation	Remove victim to fresh air away from exposure. Obtain medical attention if symptoms occur.
Skin contact	Immediately wash contaminated skin with plenty of soap and water. Remove contaminated clothing and wash before re-use. Seek medical advice (e.g. doctor) if irritation, burning or redness persists.
Eye contact	If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting. Do NOT attempt to give anything by mouth to an unconscious person. Rinse mouth thoroughly with water immediately. Give water to drink. If vomiting occurs, give further water to achieve effective dilution. Seek immediate medical advice (e.g. doctor).
Advice to Doctor	Treat symptomatically.
Scheduled Poisons	Poisons Information Centre in each Australian State capital city or in Christchurch, New Zealand can provide additional assistance for scheduled poisons. (Phone Australia 131126 or New Zealand 0800 764 766).
First Aid Facilities	Eyewash, safety shower and normal washroom facilities.

SECTION 5 – FIRE FIGHTING MEASURES

Fire and Explosion Hazards	Aqueous solution, not flammable under normal conditions of use. Flammable hydrogen gas may be produced on prolonged contact with metals such as aluminium, tin, lead and zinc.
Extinguishing Media	Use an extinguishing media suitable for surrounding fires.
Fire Fighting	Keep containers exposed to extreme heat cool with water spray. Fire fighters to wear self-contained breathing apparatus if risk of exposure to products of combustion or decomposition.
Flash Point	None

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Emergency Procedures	Minor spills do not normally need any special clean-up measures. Rinse with water. In the event of a major spill, prevent spillage from entering drains or water-courses. Wear appropriate protective equipment as in section 8 below to prevent skin and eye contamination. Spilt material may result in a slip hazard and should be absorbed into dry, inert material (e.g. sand, earth or vermiculite), which then can be put into appropriately labelled drums for disposal by an approved agent according to local conditions. Residual deposits will remain slippery. Wash area down with excess water. If required, neutralize with weak acid (citric). If contamination of sewers or waterways has occurred advise the local emergency services. In the event of a large spillage notify the local environment protection authority or emergency services.

SECTION 7 – HANDLING AND STORAGE

Handling	Corrosive liquid. Attacks skin and eyes. Avoid skin or eye contact with concentrate. Wear protective clothing when risk of exposure occurs. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers closed at all times. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered. Launder contaminated clothing before re-use.
Storage	Corrosive liquid. Store in a cool dry well-ventilated area. Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Provide a catch-tank in a bunded area. Store in original packages as approved by manufacturer. Ensure that storage conditions comply with applicable local and national regulations. Protect from freezing. Ensure that storage conditions comply with applicable local and national regulations.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits	National Occupational Exposure Limits, as published by National Occupational Health & Safety Commission: **Time-weighted Average (TWA):** None established for product. • Potassium silicate 5mg/m3 **Short Term Exposure Limit (STEL):** None established for product. • Potassium silicate 5mg/m3
Ventilation	This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection should be worn.
Personal Protective Equipment	Use good occupational work practice. The use of protective clothing and equipment depends upon the degree and nature of exposure. The following protective equipment should be available;
Eye Protection 	Safety glasses with full face shield should be used for handling concentrate in quantity, cleaning up spills, decanting, etc. Eye protection devices should conform to relevant regulations. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection 	Wear gloves of impervious material such as butyl rubber, natural latex, neoprene, PVC and nitrile – to handle in quantity, clean up spills, decanting, etc. Final choice of appropriate gloves will vary according to individual circumstances. i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.
Body Protection 	Suitable protective workwear, e.g. rubber or plastic apron, sleeves, boots and cotton overalls buttoned at neck and wrist are recommended. Chemical resistant apron is recommended where large quantities are handled.
Respirator	If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Non- viscous liquid	**Colour**	Clear
Odour	characteristic odour	**Specific Gravity**	1.14 – 1.18 @ 25 °C
Boiling Point	Approximately 100 °C	**Freezing Point**	Approximately 0 °C
Vapour Pressure	Not available	**Vapour Density**	Not available
Flash Point	Not flammable	**Flammable Limits**	none
Water Solubility	Miscible in all proportions	**pH**	11 - 12 neat
Volatile Organic Compounds (VOC)	0 % v/v	**Per Cent Volatile**	Ca 60 % v/v
Viscosity	Not available	**Odour Threshold**	Not available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity	Stable at normal temperatures and pressure. May be corrosive to metals. Stable in sealed containers. Absorbs carbon dioxide on exposure to air, which results in the deposition of insoluble silica.
Conditions to Avoid	Extremes of temperature and direct sunlight. Reacts vigorously with acidic materials. Leaving solutions exposed to carbon dioxide in the air.
Incompatibilities	ACIDS: violent reaction can occur, yielding heat and pressure, which can burst an enclosed container. Attacks many reactive metals (aluminium/magnesium/zinc alloys) releasing highly flammable gas (hydrogen), which generates fire or explosion hazards. Gels and generates heat when mixed with acid. May react with ammonium salts resulting in evolution of ammonia gas.
Hazardous Decomposition	Thermal decomposition may result in the release of toxic and/or irritating fumes.

SECTION 11 – TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Inhalation	Inhalation of mists or aerosols can produce mucous membrane and respiratory irritation.
Skin contact	Irritant. When tested for primary skin irritation potential, similar potassium silicate solutions produced no irritation to intact skin but well defined irritation to abraded skin. Human experience confirms that irritation occurs when this material gets on clothes at the collar, cuffs or other areas when abrasion may occur.
Eye contact	Severe Irritant. This material has not been tested for primary eye irritation. However, on the basis of it's similarity to Sodium Silicate solutions in composition and alkalinity it is regarded as a severe eye irritant.
Ingestion	Frequent ingestion over extended periods of time of gram quantities of silicates is associated with the formation of kidney stones and other siliceous urinary calculi in humans.
Other	
Chronic exposure	The sub-chronic toxicity of this material has not been tested. In a study of rats fed chemically similar Sodium Silicate in drinking water for three months, at 200, 600 and 1800 ppm, changes were reported in the blood chemistry of some animals but no specific changes to the organs of the animals due to Sodium Silicate administration were observed in any of the dosage groups. Another study reported adverse effects to the kidneys of dogs fed Sodium Silicate in their diet at 2.4 g/kg/day for 4 weeks, whereas rats fed the same dosage did not develop any treatment-related effects. Decreased numbers of births and survival to weaning was reported for rats fed Sodium Silicate in their drinking water at 600 and 1200 ppm.
Toxicology Information	Calculated Oral Toxicity: LD50 Oral : >2000 mg/kg
Carcinogen Status	
NOHSC	No significant ingredient is classified as carcinogenic by NOHSC.
NTP	No significant ingredient is classified as carcinogenic by NTP.
IARC	No significant ingredient is classified as carcinogenic by IARC.
Respiratory sensitisation	Not expected to be a respiratory sensitizer.
Skin Sensitisation	Not expected to be a skin sensitizer.
Germ cell mutagenicity	Not considered to be a mutagenic hazard.
Reproductive Toxicity	Not considered to be toxic to reproduction.
STOT-single exposure	Not expected to cause toxicity to a specific target organ.
STOT-repeated exposure	Not expected to cause toxicity to a specific target organ.
Aspiration Hazard	Not expected to be an aspiration hazard.

SECTION 12 – ECOLOGICAL INFORMATION	
Eco-toxicity Product (as sold)	Acute Aquatic Toxicity Category - not hazardous. LC50 > 100mg/L. Acute Aquatic Toxicity (Calculated) LC50: 300 - 3400 mg/L.
Persistence and degradability	Mineral based - not biodegradable, based on ingredients. This material is not persistent in aquatic systems but it's high pH when undiluted or unneutralised is acutely harmful to aquatic life. Diluted material rapidly depolymerises to yield dissolved silica in a form that is indistinguishable from natural dissolved silica. It does not contribute to BOD.
Bio accumulative potential	No bioaccumulation is expected. This material does not bio-accumulate except in species that use silica as a structural material such as diatoms and siliceous sponges. Neither silica nor potassium will appreciable bio-concentrate up the food chain.
Mobility in soil	Expected to be mobile in soil. Diluted material rapidly depolymerises to yield dissolved silica in a form that is indistinguishable from natural dissolved silica.
Other adverse effects	Not available
Environmental Protection	Do not discharge this material into waterways.

SECTION 13 – DISPOSAL CONSIDERATIONS	
	Dispose of waste according to applicable local and national regulations. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations.

SECTION 14 – TRANSPORT INFORMATION	
Labels Required	
ADG	None allocated.
IMDG Marine Pollutant	None allocated.
HAZCHEM	None allocated.
Land Transport (ADG)	
UN Number	None allocated.
ADG Proper Shipping Name	None allocated.
ADG Code Hazard Class	None allocated.
HAZCHEM Code	None allocated.
Special Provisions	None allocated.
Packing Group	None allocated.
Packaging Method	None allocated.
IERG Number	None allocated.
Segregation	None allocated.

SECTION 15 – REGULATORY INFORMATION	
GHS Classification	Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.
SUSMP	S5 (ALKALINE SALTS)
ADG Code	Non-DG
AICS	All ingredients present on AICS.

SECTION 16 – OTHER INFORMATION	
Issue Date	20th April 2018
Version Number	V 2.0 GHS classification.
Abbreviations and acronyms	**ADG Code**: Australian Code for the Transport of Dangerous Goods by Road and Rail. **AICS:** Australian Inventory of Chemical Substances. **CAS Number**: Chemical Abstracts Service Registry Number. **GHS**: Globally Harmonized System of Classification and Labelling of Chemicals **HAZCHEM:** An emergency action code of numbers and letters which gives information to emergency services. **HSIS:** Hazardous Substances Information System **IARC**: International Agency for Research on Cancer. **NOHSC**: National Occupational Health and Safety Commission. **NTP**: National Toxicology Program (USA). **SDS**: Safety Data Sheet **STEL**: Short Term Exposure Limit. **SUSMP**: Standard for the Uniform Scheduling of Medicines and Poisons. **TWA**: Time Weighted Average. **UN Number**: United Nations Number.
Literature references	Preparation of Safety Data Sheets for Hazardous Chemicals – Code of Practice (Safe Work Australia) GHS Hazardous Chemical Information List (Safe Work Australia) Guidance on the Classification of Hazardous Chemicals under the WHS Regulations. Global Harmonized System of Classification and Labelling of Chemicals (GHS) "Australian Exposure Standards". Safework Australia Australian Code For The Transport Of Dangerous Goods By Road And Rail Standard for the Uniform Scheduling of Medicines and Poisons Material Safety Data Sheets – individual raw materials – Suppliers HSIS – Hazardous Substance Information System – National Safe Work Australia Data Base. HCIS – Hazardous Chemical Information System – National Safe Work Australia Data Base.
Disclaimer	This MSDS summarizes at the date of issue our best knowledge of the health and safety hazard information of this product, and in particular how to safely handle and use this product in the workplace. Since the supplier cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace. If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this supplier.

End of SDS